

REMARKS

Claims 1-14 are all the claims pending in the application.

Claims 8-14 are withdrawn from consideration. Applicants add new claims 15-18.

Claims 1-7 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Claims 2-5 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claim 1 is rejected under 35 U.S.C. § 102(b) as being anticipated by Potsch et al. (U.S. Patent No. 3,788,180) ("Potsch"). Claims 2-4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Potsch in view of DeTorre (U.S. Patent No. 5,423,240) ("DeTorre") in further view of Munier et al. (U.S. Patent No. 5,365,821) ("Munier"). Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Potsch in view of DeTorre in further view of Munier and Paavola (U.S. Patent No. 4,972,750) ("Paavola"). Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Potsch. Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Potsch in view of DeTorre. Applicants add new claims 15-18 to more particularly claim the invention and to submit the following arguments to traverse the prior art rejections.

Claims 1-7 are rejected under § 112, first paragraph, because the Examiner states that it is not evident that cutting edge 64 performs any cutting whatsoever and because the only place of contact between the blades is between junctions 84 and 86 of the upper and lower blades.

Applicants submit that the cutting edges 64, 78 comply with the enablement requirement. To be enabled, one skilled in the art would be able to make and use the claimed invention using the application as a guide. MPEP § 2164.05. In the application, the distances between the cutting edge 64 and the severance plane 88 are extremely small, in the order of micrometers (1×10^{-6} m)

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("CT," Table 1). Such distances are visually imperceptible and thus, one would visually perceive the cutting edge 64 to be at the same location as the severance plane 88. Therefore, one skilled in the art would understand the cutting edge 64 as an edge having a cutting function.

To clarify the operation of the cutting edges 64, 78, Applicants submit a replacement Figure 4 which shows the disposition between the severance plane of the narrow web 16 and the cutting edge 64 of the upper blade 22.

Claims 2-5 are rejected under §112, second paragraph. Applicants submit the changes to the claims as shown to obviate the rejections for insufficient antecedent basis.

Applicants' invention relates to a disk-shaped rotary blade of a slitter blade assembly in an embodiment. The disk-shaped rotary blade has an edge at the bottom and a first beveled surface facing a drum-shaped rotary blade of the slitter blade assembly and progressively spaced from the drum-shaped rotary blade toward the edge. The embodiment also includes a second beveled surface facing a workpiece and progressively spaced from the edge away from the workpiece.

Rejection of Claim 1 Under § 102(b)

Potsch relates to an apparatus for slitting sheets of material. Potsch discloses a slitter having an inclined flat stationary feed bed for enabling sheets to be slit to be gravity fed to slitting stations.

Applicants submit that claim 1 is patentable because each and every element of the claim is not taught by Potsch. The reference fails to teach the claimed drum-shaped rotary blade, in combination with other elements of the claim. In contrast, Potsch teaches a series of anvils 53 each of which is paired with a knife (col. 4, lines 27-30). Because the Examiner has not shown

how the missing element of claim 1 is inherent to the reference, claim 1 is not anticipated and thus, allowable.

Rejection of Claims 2-4 Under § 103(a)

Claims 2-4 are rejected over Potsch in view of DeTorre in further view of Munier. DeTorre relates to blades with tungsten carbide cutting edges having a surface at a relief angle and a surface at a reverse angle at the periphery. A smooth crown is provided at the intersection of the surfaces. The crown will contact and be included within an overlap of a cooperating offset steel blade.

Munier relates to a circular knife and a cutting device for cutting materials. The circular knife is mounted on a shaft, and the knife is maintained in the cutting position by means of two spacer rings located at both sides of the knife. When mounted, a pressure is generated on the knife.

Claim 2 is patentable since the Examiner has not established a *prima facie* case of obviousness because the references, either individually or in a combination, fail to teach, suggest, or provide motivation for a slitter blade assembly wherein a first distance of said first beveled surface up to said edge along a severance plane perpendicular to a surface of the workpiece is set to a value which ranges from 40 μm to 200 μm , in combination with other elements of the claim. In DeTorre, the crown is located at the tip of the tungsten carbide ring closest to the planar surface of the wheel 11.¹ Further, the “crown should be located about

¹ “At a relief angle α of about 3°, referring to the planar surface 19 of wheel 12 or the planar surface of wheel 11[,] a first surface was ground into the side of the carbide ring. At a reverse angle β of about 0.5°, also referring to the aforesaid planar surfaces of the wheels[,] a second surface was ground into
...(footnote continued)

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0.035-0.065 inches short of the outside diameter.” (col. 2, 66-68). In other words, the distance from the crown to the bottom of the tungsten carbide ring or to the bottom of the wheel 12 is 0.035-0.065 inches (889 μm - 1651 μm), not 0.015 inches. The low end of this range, 889 μm , as taught by DeTorre, is far greater than the upper range of the claimed first distance of 200 μm .

Even assuming *arguendo*, that DeTorre discloses an analogous first distance of 0.015 inches, or 381 μm , 381 μm is almost twice the amount of 200 μm . The Examiner states that “discovering the optimum or workable ranges involves only routine skill in the art,” to support the proposition that the claimed range is disclosed by DeTorre. Applicants submit that such characterization is impermissible and request the Examiner to point out exactly where in DeTorre or in any references, a suggestion or motivation for a first distance that is almost twice the distance taught by the DeTorre. Since the Examiner has not shown where such a suggestion or motivation exists, claim 2 is not obvious and thus, patentable.

Rejection of Claim 5 Under § 103(a)

Claim 5 is rejected over Potsch in view of DeTorre in further view of Munier and Paavola. Claim 5 is patentable because the references, either individually or in combination, fail to make up for the deficiencies of claim 2.

Rejection of Claim 6 Under § 103(a)

Claim 6 is rejected over Potsch. Claim 6, which depends from claim 1, is patentable for the arguments presented for claim 1.

the ring. The intersection of the two surfaces was polished or honed to provide a smooth, slightly rounded or radiused crown on the side of the blade.” (col. 2, lines 51-59) (emphasis added).

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Alternatively, or in addition, claim 6 is patentable because Potsch fails to teach, suggest, or provide motivation for the subject matter of claim 6. Applicants request the Examiner to provide prior art to substantiate the claim that a slitter blade assembly wherein said edge of the disk-shaped rotary blade has irregularities along a circumference of the disk-shaped rotary blade, said irregularities having an irregularity quantity G set to a value which ranges from $0.5\text{ }\mu\text{m}$ to $5\text{ }\mu\text{m}$, is obvious.

Rejection of Claim 7 Under § 103(a)

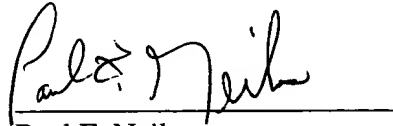
Claim 7 is rejected under Potsch in view of DeTorre. Claim 7, which depends from claim 1, is patentable at least for the arguments presented above for claim 1.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Paul F. Neils", is written over a horizontal line.

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CUSTOMER NUMBER

Date: October 8, 2003